REMARKS

Claims 1-14 are pending and rejected in this application. Claims 1, 5-7 and 10 are amended hereby.

Responsive to the comments regarding the Information Disclosure Statement (IDS) not being considered, Applicants respectfully direct the attention of the Examiner to the copy thereof enclosed herewith for the convenience of the Examiner. The Examiner indicates that the IDS lacks a statement as specified in 37 CFR §1.97(e). Applicants submit, however, that the IDS is in proper form.

"An information disclosure statement shall be considered by the Office if filed . . . before the mailing date of any of a final action . . . , a notice of allowance . . . , or an action that otherwise closes prosecution" and includes one of a statement under 37 CFR §1.97(e) "or the fee set forth in § 1,17(p)". 37 CFR §1.97(c) (*Emphasis Added*).

Applicants submit that the IDS was filed prior to the events specified in 37 CFR §1.97(c), and that an explicit authorization to charge to Applicants' deposit account the fee for filing the IDS as required under 37 CFR §1.97(e) was included in paragraph 3 of the IDS. Therefore, since authorization to charge Applicants' deposit account was included in the IDS, Applicants submit that a statement under 37 CFR §1.97(e) is not required under the alternative language of 37 CFR §1.97(c).

Accordingly, Applicants submit that the IDS was in proper form as originally submitted, and respectfully requests consideration of the reference(s) disclosed thereby.

Responsive to the rejection of claims 1-14 under 35 U.S.C. §112, first paragraph, Applicants have amended claim 1 keeping in mind the comments offered by the Examiner. Applicants submit that claim 1 and claims 2-14 depending therefrom are now in allowable form, and respectfully request withdrawal of the rejection.

Responsive to the rejection of claims 1-14 under 35 U.S.C. §103(a) as being upatentable over Applicants' Admitted Prior Art (AAPA) in view of U.S. Patent No. 4,077,812 (Tani), Applicants have amended claim 1.

Claim 1 recites in part "a process for forming a metal cylindrical bearing roller, . . . consisting of the steps of . . . obtaining a hardened metal cylindrical blank . . . honing the inner surface of the bore" and "hard turning the lateral surface of the blank to a specified outer diameter, thereby forming an outer bearing surface concentric with said inner bearing surface." (*Emphasis Added*). Applicants submit that such limitations are not disclosed or suggested by the cited references, alone or in combination, and include distinct advantages thereover.

The Examiner acknowledges that AAPA fails to disclose or suggest the step of forming the inner bearing surface by honing the bore to a specified inner diameter (ID), and of forming the outer bearing surface by hard turning the lateral surface of the blank to

a specified outer diameter. Thus, AAPA fails to disclose or suggest honing the inner surface of the bore having a specified inner diameter to form an inner bearing surface, and hard turning the lateral surface of the blank to a specified outer diameter to form an outer bearing surface concentric with the inner bearing surface, as recited in part by amended claim 1.

Tani discloses an auscutting method wherein a steel machine part is quick cooled after the application of uniform heat, auscutted, tempered and is then turned. (*column 4, lines 3-6*). Each of the turning steps of Tani are performed with the steel blank at an elevated temperature. A workpiece in a supercooled austenite state wherein the workpiece has a temperature of about 220°C is immediately chucked on a lathe where its outer diameter surface is then turned. (*see column 4, lines 39-43, column 7, lines 9-12, and column 8, lines 14-17, Emphasis Added*).

As such, Tani discloses obtaining a supercooled austenite blank and immediately turning the blank while it remains at or near the elevated temperature and after tempering. Tani does not obtain a hardened metal blank which is then honed and hard turned without any intervening processes, such as heat treatment. Thus, Tani fails to disclose or suggest a process that consists of obtaining a hardened metal blank, honing the inner surface of the bore and hard turning the lateral surface of the blank thereby forming an outer bearing surface concentric with the inner bearing surface, as recited in part by amended claim 1.

Further, Tani discloses only that the outer diameter surface is turned. Tani does not hone the inner surface of a bore, and then turn the lateral surface of the blank to a specified outer diameter to thereby form an outer bearing surface that is concentric with the inner surface of the bore. Thus, Tani also fails to disclose or suggest hard turning the lateral surface of the blank to a specified outer diameter, thereby forming an outer bearing surface concentric with the inner bearing surface, as recited in part by amended claim 1. It should be particularly noted that the process of Tani requires several additional steps relative to the process of the present invention, such as, for example, the steps of tempering or elevating the workpiece temperature and of auscutting the workpiece, and that therefore Tani fails to disclose or suggest the subject matter of claim 1.

The use in a claim of the close-ended transitional phrase "consisting of" restricts and limits the subject matter of that claim to only the elements or process steps recited therein, and precludes additional elements or process steps from being encompassed by the subject matter of such a claim. The transitional phrase "consisting of" excludes any element, step, or ingredient not specified in the claim. *In re Gray, 53 F.2d 520, 11 USPQ 255 (CCPA 1931); Ex parte Davis, 80 USPQ 448, 450 (Bd. App. 1948) (Emphasis Added).* One of the primary advantages of the process to which claim 1 is directed is a reduction in the number of steps necessary to produce the bearing.

Tani includes additional steps not recited in claim 1. Thus, Tani fails to disclose or suggest the Applicants' process, i.e., a process consisting of obtaining a hardened metal blank, honing the inner surface of the bore and hard turning the lateral surface of the blank thereby forming an outer bearing surface concentric with the inner bearing surface, as recited in part by amended claim 1.

In addition to the foregoing, Applicants submit that a *prima facie* case of obviousness has not been established.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992) (*Emphasis Added*). Thus, if the references do not provide the suggestion or motivation, a *prima facie* case of obviousness has not been established.

The Examiner acknowledges that AAPA contains no suggestion of honing the inner surface of the bore having a specified inner diameter to form an inner bearing surface, and hard turning the lateral surface of the blank to a specified outer diameter to form an outer bearing surface concentric with the inner bearing surface, as recited in part by claim 1. Applicants submit that Tani, as discussed above, similarly contains no

suggestion whatsoever of honing the inner surface of the bore having a specified inner diameter to form an inner bearing surface, and hard turning the lateral surface of the blank to a specified outer diameter to form an outer bearing surface concentric with the inner bearing surface, as recited in part by claim 1. Since the cited references fail to provide the requisite suggestion, Applicants submit that a *prima facie* case of obviousness has not been established.

Applicants further submit that a prima facie case of obviousness has not been established because Tani teaches away from the present invention.

A prior art reference that "teaches away" from the claimed invention is a significant factor to be considered in determining obviousness. *See, e.g., In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994).* A prima facie case of obviousness may be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. *In re Geisler, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997).*

Tani teaches that the steel machine part is quick cooled after the application of heat, auscutted, tempered and only then is the workpiece turned. (*column 4, lines 3-6*). Each of the turning steps of Tani are performed with the steel blank at an elevated temperature. A workpiece in a supercooled austenite state wherein the workpiece has a temperature of about 220°C is immediately chucked on a lathe where its outer diameter

surface is then turned. (*see column 4, lines 39-43, column 7, lines 9-12, and column 8, lines 14-17, Emphasis Added*). Thus, Tani teaches that the machining must be performed when the workpiece remains at an elevated temperature after tempering. In contrast, the process of present invention includes only cold turning, and does not include tempering or elevated temperatures. Once the desired hardness is obtained, the process of the present invention includes no heating or tempering. Since Tani teaches away from the present invention, Applicants submit that a *prima facie* case of obviousness has not been established.

For all the foregoing reasons, Applicants submit that the cited references, alone or in combination, fail to disclose or suggest the subject matter of claim 1. Therefore, claim 1, and claims 2-14 depending therefrom, are in condition for allowance. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the pending claims.

Responsive to the rejection of claims 1-14 under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of U.S. Patent No. 4,593,444 (Kavthekar) and in further view of U.S. Patent No. 4,820,240 (Girguis), Applicants respectfully traverse.

As the Examiner acknowledges, AAPA fails to disclose or suggest honing the inner surface of the bore having a specified inner diameter to form an inner bearing surface, and hard turning the lateral surface of the blank to a specified outer diameter to

form an outer bearing surface concentric with the inner bearing surface, as recited in part by claim 1.

Kavthekar discloses that a workpiece 108 (*Figs. 15-16*) is clamped to arbor 104 for spherical outside diameter turning. (*column 8, lines 4-12*). Workpiece 108 is then removed from arbor 104 and mounted on arbor 112 (*Figs. 17-18*) and is clamped thereto for spherical inside diameter turning. (*column 8, lines 38-44*). Workpiece 108 is then heat treated, and further grinding performed on the spherical outer and inner surfaces to achieve the finished sizes. (*column 9, lines 1-7*).

Girguis discloses a joint having outer part 120 (*Fig. 3*), cage 340 and inner part 560. Guide surface 3' of cage 340 contacts bearing surface 2' of outer part 120, and guide surface 5' of inner part 560 contacts bearing surfaces 4' of cage 340, at the end of their widths. The adjoining surfaces of revolution 21 and 41 are produced coaxially with the adjacent bearing surfaces (2' and 4') in one chucking operation, for example by means of grinding. The parts of the bearing surfaces (2' and 4') in contact with the guide surfaces (3' and 5') can also be produced by means of grinding or turning. (*column 8, lines 21-31*).

In contrast, claim 1 recites in part "obtaining a hardened metal cylindrical blank . . . honing the inner surface of the bore . . . and hard turning the lateral surface of the blank to a specified outer diameter, thereby forming an outer bearing surface concentric with

said inner bearing surface." (*Emphasis Added*). Applicants submit that such limitations are not disclosed or suggested by the cited references, alone or in combination.

As discussed above, AAPA fails to disclose or suggest honing the inner surface of the bore having a specified inner diameter to form an inner bearing surface, and hard turning the lateral surface of the blank to a specified outer diameter to form an outer bearing surface concentric with the inner bearing surface, as recited in part by claim 1.

Kavthekar mounts a workpiece on a first arbor and turns the workpiece to a rough or approximate outside diameter, then mounts the workpiece on a second arbor and turns the workpiece to a rough/approximate inside diameter. The workpiece is then heat treated, and must undergo further grinding to the final specified or finished diameter/sizes. Kavthekar does not hone the inside surface of the bore to a specified/final diameter, nor does Kavthekar hard turn the outer surface to a specified/final diameter. Thus, Kavthekar fails to disclose or suggest honing the inner surface of the bore having a specified inner diameter to form an inner bearing surface, and hard turning the lateral surface of the blank to a specified outer diameter to form an outer bearing surface concentric with the inner bearing surface, as recited in part by claim 1.

In contrast to claim 1, Girguis discloses merely exemplary methods of how the centering surfaces of a cage and the centering surfaces of inner and outer parts of a joint are formed. The centering surfaces, although referred to as bearing surfaces, are not the

surfaces of a roller bearing. Girguis does not disclose a method of forming a roller bearing, nor does Girguis disclose a method of forming an inner surface and lateral surface of a roller bearing. Further, Girguis does not disclose grinding the inner and outer surfaces of a blank to specified respective diameters to thereby form a roller bearing having an outer bearing surface that is concentric with an inner bearing surface. Thus, Girguis fails to disclose or suggest forming a bearing roller by honing the inner surface of the bore thereby forming an inner bearing surface, and hard turning the lateral surface of the blank to a specified outer diameter thereby forming an outer bearing surface concentric with the inner bearing surface, as recited in part by claim 1.

It should be particularly noted that the processes of AAPA, Kavthekar and Gurguis each require additional steps, such as, for example, the step of tempering or elevating the workpiece temperature, relative to the process of the present invention. Applicants submit, therefore, that the cited reference fail to disclose or suggest, alone or in combination, the subject matter of claim 1.

The use in a claim of the close-ended transitional phrase "consisting of" restricts and limits the subject matter of that claim to only the elements or process steps recited therein, and precludes additional elements or process steps from being encompassed by the subject matter of such a claim. The transitional phrase "consisting of" excludes any element, step, or ingredient not specified in the claim. *In re Gray, 53 F.2d 520, 11 USPQ*

255 (CCPA 1931); Ex parte Davis, 80 USPQ 448, 450 (Bd. App. 1948) (Emphasis Added). Thus, since each of AAPA, Kavthekar and Gurguis include additional steps not recited in claim 1, the references fail to disclose or suggest, alone or in combination, a process consisting of obtaining a hardened metal blank, honing the inner surface of the bore and hard turning the lateral surface of the blank thereby forming an outer bearing surface concentric with the inner bearing surface, as recited in part by amended claim 1.

Since the cited references fail to disclose or suggest, alone or in combination, the limitations recited in claim 1, Applicants submit that claim 1 and claims 2-14 depending therefrom are in condition for allowance and respectfully request same.

For all the foregoing reasons, Applicants submit that the pending claims are definite and do particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Moreover, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the pending claims. The pending claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefore and authorize that any changes be made to Deposit Account No. 50-0831, DELPHI TECHNOLOGIES, INC.

255 (CCPA 1931); Ex parte Davis, 80 USPQ 448, 450 (Bd. App. 1948) (Emphasis Added). Thus, since each of AAPA, Kavthekar and Gurguis include additional steps not recited in claim 1, the references fail to disclose or suggest, alone or in combination, a process consisting of obtaining a hardened metal blank, honing the inner surface of the bore and hard turning the lateral surface of the blank thereby forming an outer bearing surface concentric with the inner bearing surface, as recited in part by amended claim 1.

Since the cited references fail to disclose or suggest, alone or in combination, the limitations recited in claim 1, Applicants submit that claim 1 and claims 2-14 depending therefrom are in condition for allowance and respectfully request same.

For all the foregoing reasons, Applicants submit that the pending claims are definite and do particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Moreover, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the pending claims. The pending claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefore and authorize that any changes be made to Deposit Account No. 50-0831, DELPHI TECHNOLOGIES, INC.

The Examiner is invited to telephone the undersigned in regard to this Amendment and the above identified application.

Respectfully submitted,

6-MAY-2003
Date

Laurence S. Roach, Esq.
Reg. No. : 45,044

JAECKLE FLEISCHMANN & MUGEL, LLP
39 State Street, Suite 200
Rochester, New York 14614-1310
Telephone: (585) 262-3640
Facsimile: (585) 262-4133

E-mail : Lroach@jaeckle.com